



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/967,136	09/27/2001	Richard Joseph McConnell	079280-0380802 SRF-123	4922
27498	7590	06/28/2010		
PILLSBURY WINTHROP SHAW PITTMAN LLP			EXAMINER	
P.O. BOX 10500			BURD, KEVIN MICHAEL	
MCLEAN, VA 22102				
ART UNIT		PAPER NUMBER		
2611				
NOTIFICATION DATE		DELIVERY MODE		
06/28/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket_ip@pillsburylaw.com

Office Action Summary

Application No.

09/967,136

Applicant(s)

MCCONNELL, RICHARD JOSEPH

Examiner

Kevin M. Burd

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-6, 8 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6, 8 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/02)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. This office action, in response to the amendment filed 6/8/2010, is a final office action.

Response to Arguments

2. The previous rejection under 35 USC 101 is withdrawn in view of the remarks filed 6/8/2010.
3. The previous rejection under 35 USC 112 is withdrawn in view of the amendment to the claim.
4. Applicant's arguments filed 6/8/2010 have been fully considered but they are not persuasive.

Applicant states the examiner' has completely ignored the fact that the sequence of operation in Kuo is entirely different from that in the present invention. The examiner disagrees. As stated in the previous office action, Kuo discloses determining codes that are repeated in the correlation process. Some of the codes are redundant code sequences that are repeated during the correlation process. A portion of these codes are removed and the remaining codes are correlated with the pseudo random codes that are received in the spread data signal. These codes are the partial accumulations in that they are repeated in a correlation process of the spread spectrum signal, at least a portion of the codes that are repeated in the correlation process are removed and the remaining codes are used to correlate the received signal. The remaining codes are stored for use in the correlation of the received spread data signal. Claim 1 recites

determining partial accumulations (codes) that are repeated in a correlation process. Kuo discloses this limitation as stated above.

Applicant states the examiner appears to have completely overlooked that Kuo nowhere explicitly or implicitly teaches wherein the data slice of the spread spectrum signal includes a plurality of data bytes and a plurality of pseudorandom code bytes as recited in claim 1. The examiner disagrees. The spread spectrum signal of Kuo is a CDMA signal that uses a PN sequence to "spread" input data to resist data loss in a noisy environment (column 1, lines 22-25). Therefore, the spread spectrum signal includes a plurality of data bytes and a plurality of PN code bytes. The determining step will use the received signal to determine the codes that are repeated in a correlation process. The data slice is the received signal or a portion of the received signal that is being compared.

For these reasons and the reasons stated in the previous office action, the rejection of the claims are maintained and stated below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3-6, 8, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo et al (US 6,370,208) in view of Lundby et al (US 6,285,655) further in view of Underbrink (US 6,650,879).

Regarding claims 1, 3-5 and 18, Kuo discloses a correlator for CDMA applications. An incoming spread spectrum signal is received. In spread spectrum receivers, to despread the spread signal, the received signal is correlated with the appropriate spreading code (PN code) to recover the originally transmitted data. Kuo discloses determining for the spread spectrum signals, codes that are repeated in the correlation process (column 4, lines 21-26). These codes are the partial accumulations. The codes are the same as those codes used to spread the transmitted signal. Therefore, the spread signal is used to determine these codes. A portion of the codes are removed in this process. Column 4, lines 30-34 states, for example, the first and third positions have the pattern 1, 1, -1, 1. Combining the corresponding portions of the received signal together before multiplying reduces the number of multiplications. The non-redundant portions and the redundant portions are stored then used to correlate the received signal to despread the received data signals in the receiver. Claim 1 of the reference also provides a description of the process of despreading the received signals with a reduced number of calculations. Though Kuo discloses correlating the I and Q signals, Kuo does not explicitly show the I and Q signals are accumulated separately. Lundby discloses the CDMA receiver shown in figure 4. The receiver separates the received signal into I and Q components. The I and Q signals are separately correlated using a short PNI sequence and a short PNQ sequence (column 7, lines 51-57). The

despread I and Q signals are separately input to accumulators 324a and 324b, as shown in figure 4, to accumulate the data over the 64-chip interval (column 7, lines 58-66). Using the prior art components of a CDMA receiver will allow for proper reception and recovery of the transmitted signals in the communication system. In addition, when a received signal is separated into its I and Q components, separate I and Q correlation takes place to despread the signal. The despread components are then combined. This is what is done in CDMA receivers. For these reasons, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine the typical components of a CDMA receiver as shown by Lundby into the CDMA receiver of Kuo.

The combination of Kuo and Lundby does not disclose the receiver is a GPS receiver. Underbrink discloses the personal communication device with GPS receiver shown in figure 3. The GPS receiver comprises a GPS receiver as well as a CDMA transceiver. The GPS receiver of Underbrink allows numerous types of signals to be received. The provisions share a common clock source (column 2, lines 19-30). This minimizes the physical size of the on-board battery (column 1, lines 14-28) as well as the inherent advantageous of GPS. For these reasons, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Underbrink into the method of Kuo and Lundby.

Regarding claim 6, Kuo discloses the redundant calculations are determined and removed from the calculations. The non-redundant calculations will be computed using the correlation process.

Regarding claim 8, Kuo discloses the use of I/Q spreading in the RAKE receiver (column 2, lines 34-43).

Regarding claim 17, Kuo discloses the received signal will comprise a number of code bits and corresponding data bits. Column 3, line 63 to column 4, line 4 discloses the data comprises numerous 4 bit code words. The spread data will comprise at least that number of data bits.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Friday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin M. Burd/
Primary Examiner, Art Unit 2611
6/15/2010